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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,463

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Terry J. Logan

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EXAMINER

MARCANTONI, PAUL D

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/669,463	Applicant(s) LOGAN ET AL.	
	Examiner Paul Marcantoni	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,11,22,23,25 and 34 is/are pending in the application.
- 4a) Of the above claim(s) 22,23,25 and 34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-9, and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1,4-9,11,22,23,25 and 34 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Applicant's arguments filed 1/24/07 have been fully considered but they are not persuasive. It is also noted that applicants amended back to their originally disclosed invention of "a method of heating a kiln used in the manufacture of producing cement clinker". The previous amendment changed the originally disclosed invention which was thus non-elected by original presentation and found non-responsive. It again is noted that this issue is resolved as applicants amended back to their originally claimed invention:

Withdrawn/Non-Elected Claims:

Applicants should cancel these withdrawn and non-elected claims at their earliest convenience and potentially if they so choose file a divisional application. They are directed to a method of reducing NOx emissions during cement clinker production and is a materially different invention classified in class 423. This non-elected invention is NOT rejoinable with the elected claims. Remember in accordance with rejoinder under In re Ochiai that only product and process of making/and or using may be rejoined. This is not the case for non-elected claims it would expedite prosecution to cancel these claims in applicants' next response.

102/103:

Claims 1, 4-9, and 11 are rejected under 35 U.S.C. 102(b and e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pennell '285 or Elsner '735.

103:

Claims 1, 4-9, and 11 are rejected under 35 U.S.C. 103(a) as obvious over Pennell '285 or Elsner '735 alone or in view of Clark '902.

Response:

Applicants amendment and response was reviewed and only the references above remain. The applicants argue that **Pennell** fails to teach mineral by products comprising coal combustion by product (e.g. fly ash) and also fails to teach mixing of the refuse with mineral by products. The examiner disagrees. Pennell teaches adding organic wastes such as food waste, paper waste, animal waste (manure) (col.4, lines 15-26). Also, Pennell teaches that when coal is used as the fuel (which can be supplemental or in greater quantities than the organic added matter which also has fuel properties) it is burned in a rotary kiln wherein a large proportion of the ash (which is fly ash because fly ash is the result of coal combustion). The applicants' assertion that there is no mixing between refuse (organic waste) and mineral by product (ie fly ash) is also thus in error because Pennell teach there is mixing of fly ash with the nodular feed material which includes the waste material (col.3, lines 13-20).

The applicants admit **Elsner** teaches making cement from raw sewage yet does not teach the feed is a mixture of organic waste and mineral by product as recited in their claims. They state that Elsner also does not teach the organic waste/mineral by product is used as a fuel. In rebuttal, the examiner disagrees. Elsner teaches it is conventional in the art to make cement clinker (Portland) by mixing limestone, clay,

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lime, silica and blast furnace slag (which is compositionally and if not that functionally equivalent as a slag material such as boiler slag and both are mineral byproducts).

Applicants amended their claims and specify specific mineral by products of coal combustion such as fly ash, bottom ash, flue gas desulfurization wastes, etc. The applicants argue that because **Clark** teaches residue of mined ores (mine tailings) and thus is not one of applicants' mineral byproducts in claim 1 as now amended. In rebuttal, the examiner has not used Clark for teaching of mineral byproduct. Rather, Clark has been used to meet applicant's claim 5 limitations that coke, coal, oil, and gas are conventional fuels used in rotary kilns for making cement clinker. No other teaching has been taken from Clark.

Other Prior Art Not Used in Rejection but Could Have Been:

The following art was not needed in the rejection as it sufficiently teaches their invention but has been cited to show that applicants invention is obvious to one of ordinary skill in the art:

Oates et al. '052 teaches adding fly ash as a raw material to form a cement clinker is old in the art. Further, it is notoriously known in the art to add the combustible organic materials now in applicants' claim 1 as low grade fuels so the combination of these two components is obvious to one of ordinary skill in the art.

Oates et al. '544 B2 teaches it is known in the art to substitute a portion of limestone (calcium carbonate) with fly ash as a raw material. Again the use of fly ash is old as raw material and it would have been obvious to combine with low grade combustible fuels such as those now in applicants' claim 1.

Oates et al. '105 B1 teach fly ash and bottom ash are known conventional raw materials to make cement clinker and again the use of low grade organic waste as fuels is old in the art. Their usage together would have been an obvious design choice for one of ordinary skill in the art.

College '940 teaches mixing flue gas desulfurization waste product and mixing with fly ash (col.3, lines 29-40) and meets applicants claims as well for raw materials used to make cement clinker.

Babu also teach mixing flue gas desulfurization waste with fly ash (col.3, lines 5-18) to make cement clinker.

Morrison '256 teaches making a fuel that can also be used in a cement kiln (ie rotary kiln) comprising fly ash and organic wastes (see claim 1 in col.21-22).

Hoffis patents and publications teach animal manure and even human manure are known raw materials that are useful as low grade fuels in cement kilns. The use of fly ash has already been shown to be a known additive in accordance with Oates.

Blum teaches slag as a raw material can be replaced by fly ash, bottom ash, and sewage sludge. Thus, these materials are all known for addition including in combination to make cement clinker.

Trivino Vazquez teach it is known in the art to make cement clinker by mixing fly ash and food waste or paper/cardboard waste.

Nechvatal et al. teach the combination of fly ash/sewage sludge as low grade fuel is old in the art. It is usable in a kiln of which a cement rotary kiln is one.

Beisswenger et al. '317 teach mixing low grade fuels such as biomass, waste wood, paper waste, etc. with fluidized bed ash (see col.2, lines 55-65) to make cement clinker.

Ernstbrunner '987 teaches using paper waste sludge as a raw material (low grade fuel) to make cement clinker. Again, Oates already teaches adding fly ash as a raw material including a substitute for the conventional ingredient limestone to make cement clinker. Thus, the use of both these mixed together, for example, at the feed end to make clinker would have been obvious to one of ordinary skill in the art.

Morton et al. '068 teaches a biosolids fuel that teaches the same organic wastes as applicants (claim 3) and also teaches mixing with fly ash (claim 13). The remaining Morton publications are redundant in the '068 teaching.

Somerville '735 or '905 teaches mixing waste material such as sludge with fly ash.

Hundebol '016 teaches that sewage sludge and paper waste sludge are known low grade fuels for making cement clinker.

Nevertheless, despite the abundance of references out there, the examiner's rejection sufficiently teaches applicants invention and the finality of this office action is now proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Paul Marcantoni/
Primary Examiner, Art Unit 1793